

THE HONOURS DISSERTATION

A GUIDE FOR STUDENTS AND  
SUPERVISORS

Department of  
Biology Memorial  
University

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# BIOLOGY 499A and 499B, THE HONOURS DISSERTATION COURSES: A GUIDE FOR STUDENTS AND SUPERVISORS

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These guidelines are intended to help both students and Supervisors in the production of an Honours dissertation. *It is strongly recommended that these guidelines be closely followed.* Failure to do so may result in either an unacceptable dissertation or a dissertation that requires such extensive changes that timely graduation becomes impossible. 3

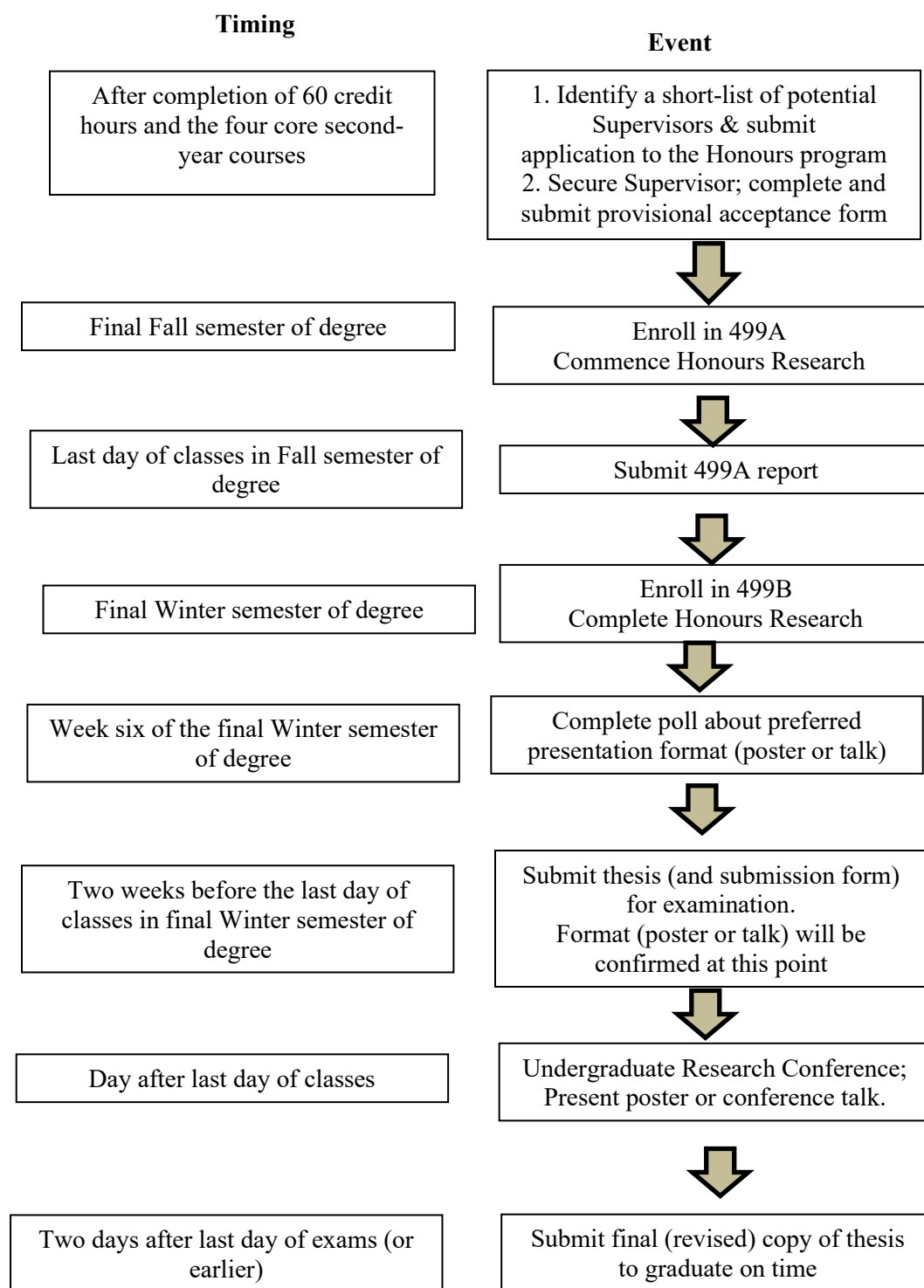
## GENERAL SUMMARY

All candidates for the Honours B.Sc. in Biology must take both Biology 499A and 499B. In these courses the student undertakes an independent research project under the guidance of a Supervisor. Usually, but not necessarily, the Supervisor will be a faculty member of the Department of Biology. **In the event that the primary Supervisor is outside the Department of Biology and has not participated in supervising our Honours students before, it is necessary for the student to have a co-Supervisor from within Biology department.** Responsibilities of the Supervisor are summarized in Box 1 (pg. 6).

To register for 499A students must meet the criteria as set out in the University Calendar. To register for 499B candidates must submit written evidence of satisfactory progress in 499A and pass 499A. Students in 499B should normally be in the final semester of their program. Normally students enroll in 499A in the Fall semester and 499B in the winter semester. If a student wishes to have a gap semester between 499A and 499B they should speak to the Biology APO as soon as possible with a rationale for why the gap is warranted; allowance for a gap semester between completion of 499A and 499B must be approved by the department. At the end of each winter semester, all 499B students are required to participate in the Undergraduate Research Conference where they showcase their research either in the form of a poster or conference talk. Evaluation of 499B is based in part on evaluation of the presentations at the Undergraduate Research Conference and an evaluation of the written dissertation. Grading for both 499A and 499B is Pass/Fail (PAS/FAL). If a Pass is awarded, it may be contingent upon changes to the dissertation.

**SUMMARY OF SIGNIFICANT EVENTS FOR THE STUDENT (see flowchart<sup>4</sup> in Figure 1 for a visual summary)**

- 1) Apply to enter Honours program (Submit application form directly to the Biology Department, to the attention of the Biology Academic Program Officer (APO)).
- 2) At the same time (or before) start to look for a Supervisor and a dissertation topic. Supervisors can be from outside Biology; if they have not supervised a Biology Honours student previously, there must be a co-supervisor involved who part of the Biology department.
- 3) If you meet (or could meet) the criteria, the Biology Department will provisionally accept you, contingent on resources and a Supervisor availability.
- 4) Your Supervisor must sign the provisional acceptance form before you are fully accepted; this form is provided in the email from the Biology APO.
- 5) Register for Biology 499A in the Fall semester (contact Biology APO for steps to register).
- 6) At the end of 499A write a brief report outlining what you have done and explaining how the work done will enable you to complete 499B in a timely fashion (see pg. 9 for further details).
- 7) Your report from 499A will be evaluated by your Supervisor and the Head of Department. On the basis of that evaluation you may (or may not) be allowed to register for 499B. A digital file of report (in PDF format) and Form (Appendix A), signed by your Supervisor (and co-Supervisor, if applicable), must be submitted to the both the Secretary for the Head of the Biology Department and the Deputy Head of Biology (Undergraduate) by the last day of classes.
- 8) Electronically submit a finished dissertation as a PDF file together with form file (Appendix B) to the Head of Department no later than **two weeks before the last day of classes of the Winter semester**.
- 9) Participate in a departmental Undergraduate Research Conference, normally scheduled the day after the last day of classes in the Winter semester (date and time of the event will be confirmed at the start of the Winter semester). Your participation will entail presentation of a poster OR brief (12 minute) conference-style talk. You will be asked to decide which format of presentation you wish to do by the sixth week of the winter semester.
- 10)
- 11) Following receipt of the review of the written dissertation, submit a corrected PDF file of the Dissertation to the Head of the Department.
- 12) The final PDF file of your dissertation must be received by the Biology Department before your final grade for 499B can be sent to the Registrar.



**Figure 1.** Flow chart showing timing and key steps in the Biology Honours Program

**BOX 1. RESPONSIBILITIES OF THE SUPERVISOR**

- Meet with the student in the semester before they enroll in 499A to discuss the research project
- Ensure the student has appropriate safety training (field, lab safety) and training on equipment
- During 499A, supervise the research project (this can be delegated in part to senior graduate students and/or post docs in the lab, but the Supervisor bears ultimate responsibility for the research project)
- Ensure that the student completes the 499A report by the last day of the semester in which they are enrolled
- Evaluate the 499A report prior to submission to the Biology department
- Supervise the student during the 499B semester; ensure the student hands in drafts of the thesis in a timely manner to ensure review/revision time prior to final submission
- Ensure that the student submits the thesis for examination by 2 weeks before the last day of the semester
- Recruit a suitable colleague (normally within Biology or cognate unit at Memorial) to be the Examiner and provide a written review of the dissertation within 2 weeks.
- Attend the Undergraduate Research Conference
- Participate as an evaluator of other students' posters/talks at the Undergraduate Research Conference
- Review the revised thesis before final submission

## **PURPOSE**

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The purpose of researching, writing and defending a dissertation is to give students an opportunity to personally conduct original research, to learn methods and techniques, to organize and analyse data and ideas, to communicate ideas clearly in a conference-style venue, and to make the methods and results of the research accessible to others. The Honours dissertation is valuable to students entering any professional field, not just to those heading for graduate school in the biological sciences.

## **APPLYING FOR ADMISSION TO THE HONOURS PROGRAM**

Students may apply to enter the Honours Program no sooner than the start of their second year as a Biology Major (which is normally the third year of university studies or their fifth semester at university; after completion of 60 credit hours and the four “core” second-year courses as outlined in the recommended schedule). Students should fill out the application form obtainable from the Biology Website (<https://www.mun.ca/biology/undergraduates/student-resources-and-forms/>). This application is then sent to the Biology Department where the student’s record is checked. If the student meets (or could possibly meet in the future) the criteria as set out below, an e-mail is sent to the student giving provisional acceptance to the Honours program. Included with this e-mail of provisional acceptance will be a form to be signed by the student’s Supervisor. Only when this form, signed by the Supervisor, is received by the Biology Department will the student be fully accepted into the Honours program (at which time the Biology APO sends a request to the Registrar’s Office to have the student’s program formally changed in Banner). The form to be signed by the Supervisor is only valid for one year from the date of issue. If a Supervisor has not been found by the student within that year the student must re-apply to enter the Honours program.

## **CRITERIA TO ENTER THE HONOURS PROGRAM**

Detailed criteria are set out in the University Calendar. The significant differences between the General and the Honours degree are the number of Biology courses required and the grades and grade point average that must be achieved.

The academic standing required for an Honours is a grade of “B” or better, OR an average of 75% or higher (whichever is to the candidate’s advantage) in the Major subjects (i.e., the 19 Biology courses prescribed for the major, excluding the 1000-level courses and 499A/B (no numeric grade assigned), and an average of at least 2.75 points on the total number of courses required for the degree.

Students must successfully complete a total of 40 courses (120 credit hours) including all the CRW (Critical Reading and Writing), Mathematics, Statistics, Chemistry, Physics and Biochemistry courses required of all Biology majors.

In the Honours program, students must take a total of 23 Biology courses (including two at first year and the two dissertation courses 499A and 499B), achieve a grade of at least a “B” (or 75% average) in each of these (except first year) and end up with an overall Grade Point Average of at least 2.75 on the total (i.e. 40 courses or 120 credit hours) required for the degree.

With special permission it is possible to repeat or substitute Biology courses where the student achieved less than a “B”, but **no more than three** such repeats or substitutions are allowed. Such permission must be requested by the student in writing to the Head of the Biology Department.

It is permissible to take extra courses above the minimum 40 (120 credit hours) required in order to bring the GPA of the best 40 (120 credit hours) up to the required level.

## FINDING A SUPERVISOR AND A TOPIC

Before looking for a Supervisor and a topic, students should prepare a brief C.V., a transcript and a cover letter that provides your background and areas of interest.

The Supervisor will normally be a faculty member of the Biology Department. However, faculty from other University Departments may also be Supervisors of Biology students where the dissertation topic warrants. Examples are faculty members from Biochemistry, Earth Sciences, Psychology, Medicine or Ocean Sciences. In addition, research scientists working with a government agency such as the Department of Fisheries and Oceans, Wildlife or Agriculture may also act as Supervisors. **In cases where a Supervisor is external to the Biology Department (either within the University or not) and has not previously supervised a Biology Honours student, a co-Supervisor from within the Biology Department must be chosen or assigned.**

Students are responsible for making the initial approaches to potential Supervisors and for having some general ideas for dissertation topic areas. There is no single way of finding a Supervisor and a topic, but usually one (or a combination) of the following routes is employed:

- a. Talking to people. Ask your instructors (faculty, laboratory instructors, instructional assistants, graduate student demonstrators).
- b. Attending the Honours mixer (usually organized by BIOS in the Winter semester)
- c. Students with definite ideas of the area in which they wish to work should directly contact faculty (or other scientists) in that area. Anyone uncertain of the appropriate person to act as a Supervisor should ask their faculty advisor or the Deputy Head (Undergraduate).



- d. Students who wish to work with a particular Supervisor should approach that person directly.

Because of their greater experience in evaluating possible projects in terms of time and money,<sup>10</sup> the final design of dissertation projects and whether to supervise them is up to the faculty members involved.

## **WHAT IS AN APPROPRIATE DISSERTATION TOPIC?**

The spirit of Biology 499A/B is that students should directly and personally conduct some original research that generates data, usually from the basis of one or more testable hypotheses. Research can involve one or more of field work, lab work (i.e., wet lab), modelling or bioinformatics. A literature review alone is not appropriate.

If it is anticipated that your work may be suitable for publication, either by itself or as part of a larger paper in a refereed journal, then Supervisors should discuss intellectual property issues with students, at the earliest possible stage of their programs, including any potential joint authorship that might arise from their research and any joint ownership of data or patents; Supervisors should also make sure they adequately acknowledge any student contributions to material they publish. This research may be based in the field or in the laboratory or in both.

For reference, previous Honours dissertations can be found at the Centre for Newfoundland Studies in the QEII Library.

## **HOW MUCH WORK IS INVOLVED?**

The amount of work involved in either 499A or 499B is intended to be similar to other senior level courses. As an approximate guide this is taken to be about 12 hours per week per course, or about 160 hours per course (= about 320 total for 499A and 499B combined). The onus is on Supervisors to select, define or refine research topics so that they will require no more work than indicated above. Supervisors should bear in mind that these courses are part of an undergraduate program and should avoid the temptation to demand graduate-level work from the student.

## **WHO PAYS FOR THE DISSERTATION RESEARCH?**

The Biology Department does not directly fund Honours students. It is expected that Supervisors will cover any costs of Honours research out of their own research and/or operating grants. Poster printing costs will be covered by the supervisor. Posters can be printed at the Digital Media Commons in the QEII.

## **REQUIREMENTS FOR REGISTRATION IN BIOLOGY 499A**

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1. Approved candidates should consider a possible dissertation topic and must confirm a Supervisor before registering for Biology 499A. Students normally register for Biology 499A in the Fall semester of their final year. In exceptional circumstances 499A can be completed in the spring semester prior to the normal Fall semester; however permission to do so must be obtained in advance.
2. Any student whose application for Honours has been fully (not merely provisionally) accepted by the Biology Department may register for Biology 499A. Candidates registered for Biology 499A must meet with their Supervisors as soon as possible to discuss the dissertation and to seek advice on appropriate courses to take.
3. Registration for Biology 499A is done by completing a course change form.

Awarding a grade (Pass/Fail) for 499A will be primarily on the basis of a progress report written by the student. At the end of 499A each student must submit a written report (approximately 10 pages) by the last day of classes to the Head of Department outlining the progress made during 499A and a **timetable** for how the dissertation will be completed in a timely fashion during 499B. This report should ideally contain a summary of a literature survey, an introduction to the research question, outlining hypothesis and prediction and a methods section outlining techniques learned and methods employed, a summary of data gathered so far, and/or some preliminary data analysis and a reference list. The content of this report should be discussed with your Supervisor.

**NOTE:** The form (Appendix A) must be signed by the Supervisor (and co-Supervisor, if appropriate) and attached to the report before it is submitted to the Head of the Department.

The spirit of this report is to ensure that the student has been active while registered for 499A and that this activity can reasonably be expected to result in the timely submission of the dissertation at the end of 499B. Only when the Supervisor and Head of Department are satisfied that this is the case will a **“PASS”** be awarded for 499A.

If the Supervisor and Head are not satisfied with the progress made by the student in 499A there are two options open to them. First, they may award a **“FAIL”** grade. Second, they may award a **“PASS”** despite the lack of progress in 499A on the understanding (**given in writing to the student**) that registration for 499B will be denied until the candidate has completed further work (while not registered for either 499A or 499B; i.e., in an intervening semester) and resubmitted the report of activities to the Supervisor and Head (See item 4 under “Requirements for registration in Biology 499B, below”).

Note that the usual regulations for awarding an **“INCOMPLETE”** (**“INC”**) grade apply to 499A. That is, the student must supply written documentation of extenuating circumstances. In such cases, students must complete and submit their reports such that a grade can be awarded before the end of the first week of classes of the semester immediately following the one in which they were registered for 499A. Further extenuating circumstances, properly documented, may make students eligible for an extension of the **“INCOMPLETE”** until the end of the semester immediately following the one in which they were registered for 499A.

## REQUIREMENTS FOR REGISTRATION IN BIOLOGY 499B

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1. Sufficient progress in 499A (documented in the student report from 499A) to warrant admission to 499B.
2. A **“PASS”** in 499A.
3. In addition to both the **“PASS”** in 499A and the documented progress in 499A, written confirmation from the Supervisor that the student can reasonably be expected to complete 499B without undue difficulty in the semester in which the student intends to register for 499B.
4. In cases where a **“PASS”** has been awarded in 499A, but where there is a lack of progress in 499A (as shown by the student report), a Supervisor will normally decline to accept a student immediately into 499B. In such cases the student may not register for 499B and must either drop out of the Honours program or work on their own time (and at their own expense and in their own space as applicable) to submit a second report in time for the next semester. Note that Supervisors of students who have not shown sufficient progress in 499A may decline to provide space, money or facilities as applicable that would facilitate the student’s preparation for a second (or more) attempt to enter 499B.
5. In cases where there has been a lack of progress in 499A (as shown by the student report) a Supervisor may nevertheless be prepared to accept the student into 499B. In such cases, the Supervisor must fully justify this decision in writing to the Head. This justification must in part contain an acknowledgement that the Supervisor is assuming responsibility for the student’s timely progress through 499B.
6. Permission of the Head, who will base their decision on evidence of whether or not the above requirements (1-5) have been met.

1. A substantially complete draft of the dissertation should be submitted to the Supervisor 6 weeks before the last day of classes for that semester and revisions made before formal submission of the finished dissertation. At this point, the student also needs to inform the Deputy Head (Undergraduate) about which format they prefer to present (poster or oral) at the Undergraduate Research Conference. Note that preferred format may not always be accommodated due to space/time limitations.
2. Formal submission of the dissertation to the Department. *Formal submission consists of submitting a PDF file of the dissertation to the Head of Department 14 days before the last day of classes in the semester in which the student is registered for 499B and the completed form (Appendix B) signed by the Supervisor (and co-Supervisor, if appropriate).* (Note: This is not the same submission date as 499A). At this point the Deputy Head (Undergraduate) will notify the student and supervisor as to what format they are presenting at the Research Day.
3. The dissertation must be in acceptable format, based on the guidelines given in this book, and norms for the research sub-discipline. A well-written BSc (Hons.) dissertation will normally be written in a scientific style (Introduction, Methods, Results, Discussion and include supporting references, figures, tables and appendices). Length will vary based on the research project, and sub-disciplinary norms, but text of an Honours dissertation (exclusive of figures, tables, references, appendices) can normally range from 20-60 pages. Excessive length may imply a poor writing style or an unfocussed topic. The written dissertation will be evaluated by an External examiner (chosen by the Supervisor) who will provide written feedback and advise whether the dissertation merits a “Pass” or a “Fail” (using Appendix B). Note a “Pass” may still be awarded if revisions are required; the assignment of the PAS in Banner will be contingent on the student making the revisions recommended by the Examiner.
4. The student must participate in the public research day and present their poster or talk. It is expected that students will attend the full event..
5. Any required corrections must be made.
6. One electronic PDF file of the finished dissertation must be submitted to the Head of Department who will forward one copy to the University Library (see **Final Submission to the Department of copies**).

## EXAMINATION OF THE DISSERTATION

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The formal examination of the dissertation is based on the written evaluation of the examiner (Appendix B) and the feedback from the evaluators of the poster/talk at the research day (see Appendix C). Based on these recommendations, the 499B will be awarded either a “PASS” or “FAIL”. As is the case for all courses, the final decision to pass or fail a candidate will be made and submitted to the Registrar’s Office by the Head of Department.

## PARTICIPATION IN THE UNDERGRADUATE RESEARCH CONFERENCE

The Department will organize an undergraduate research conference. This will normally be a half-day event scheduled on the day after the last day of classes in the Winter semester. The exact date will be confirmed at the start of the winter semester. ALL 499B students MUST participate in the Research Conference.

All 499B students will present their research, either in the form of a poster or a conference talk. **Students will be polled at week six of the Winter semester about their preferred presentation format.** Note that preferred format may not always be accommodated given space and time constraints. Every effort will be made to allow students to present in their preferred format. **Confirmation of format will be given to students and supervisors two weeks before the last day of classes.**

A schedule of the Research Conference will be sent out in advance. All members of the Biology community will be encouraged to attend. All Faculty who are supervising Honours students will be asked to provide feedback (via a standardized form, see Appendix C) of 2-6 posters or talks. This will be coordinated by the Deputy Head (Undergraduate).

Poster presentations should be in the form of a 36” x 48” research poster. Posters should convey the highlights of the research. During the poster session, students will stand by their poster and answer questions.

Conference talks will provide a short overview of the Honours project in the form of a power-point presentation. They will be 12 minutes long, with 3 minutes allowed for question and answer.

Students are encouraged to work with the supervisor to seek advice on making an effective poster or conference talk.

## FINAL SUBMISSION TO THE DEPARTMENT OF COPIES OF THE CORRECTED DISSERTATION FOR WHICH A PASS HAS BEEN AWARDED

One final, corrected PDF file of the dissertation must be submitted to the Head before a grade is awarded. All parties involved should be aware that no alterations can be made to the

dissertation after the Department has submitted the grade. The Head will forward a printed 16 copy to the University Library. A signed release form, available from the Biology General Office, must accompany the dissertation when it is submitted to the University Library. All honours dissertations in the University Library shall be available for unrestricted consultation by students and faculty except under exceptional circumstances. Copyright remains with the student author.

## **ORGANIZATION OF THE DISSERTATION**

### **Length and arrangement of text**

Many Honours dissertations have been too long. While the Department would never discourage students from pursuing their research to the fullest extent, it must be borne in mind that students are not required to produce graduate level work in an undergraduate course (see “**How Much Work is Involved?**”) about the number of hours that might reasonably be expected for an undergraduate course). This matter is the responsibility of both student and Supervisor and should be discussed at an early stage in the research. A typical dissertation should not normally exceed 60 pages of text including bibliography, but excluding figures, tables and appendices.



The general arrangement of the dissertation is to be as follows:

- Title Page
- Abstract
- Acknowledgements
- Table of Contents
- List of Figures
- List of Tables
- List of Abbreviations (if required)
- Text of Dissertation
  - Introduction
  - Methods
  - Results
  - Discussion
- References
- Appendices

### **Title page**

The title page must contain the following information: the approved dissertation title, the full name of the author, the degree for which the dissertation is submitted, the name of the Department (Biology), the name of the institution and the date. It must include the phrase “a dissertation submitted to the Department of Biology in partial fulfilment of the requirements for the degree of Bachelor of Science (Honours.)”. The title, while concise as possible, should contain those key words which will identify the contents of the dissertation as accurately as possible.

### **Abstract**

The abstract is a summary of the essential qualities of the dissertation. It should contain a brief description (not exceeding 350 words) of the problem, methods and important results or conclusions. Do not cite references in the abstract.

### **Acknowledgements**

Note any help received in this section. Check with your Supervisor about sources of funding that supported your research; these need to be acknowledged here. If the work is collaborative, a statement of contributions must be included.

### **Table of Contents**

The Table of Contents should list the sections and major subdivisions clearly distinguished in the body of the text. The initial page number for each section and subdivision should be shown.

The title of each section should be typed in full capitals with no terminal punctuation. A 18  
subdivision of a section should be indented sufficiently to distinguish it from the section title.  
The initial letter of a subdivision name should be a capital, the other letters in lower case with  
no terminal punctuation. The same style of lettering should be used in the body of the text.

### **List of tables and figures**

Each list should include the number of the table or figure, the title for each and the page or  
pages on which it appears. Only the first letter of the first word in each title should be  
capitalized (except when other conventions apply e.g. genus names).

### **Organization and headings**

The organization of the text should be discussed with the Supervisor. Normally three levels  
of headings should be used. First-order headings may be centred and capitalized; second-  
order headings may be capitalized at the left margin; third-order headings may be underlined  
or italicized at the left margin. Footnotes should be avoided.

### **Margins, Fonts, Spacing**

All margins should be approximately 25 mm (about one inch). Font should be 12-point  
Times New Roman. Text should be double-spaced, with left-justified margins.

### **Appendices**

Only directly relevant material should be included within appendices. Code, raw data or  
calculations may accompany a dissertation as appended material, or may be placed in an  
online research repository (e.g., FigShare, GBIF, GenBank; in which case, a description of  
the online material with a link should be provided in the appendix). All appendices must be  
produced to the same standard of legibility as the body of the work.

### **Pagination**

Pages containing Acknowledgements, Table of Contents, List of Tables, List of Figures and  
other similar preliminary material should be numbered consecutively using Roman numerals  
in lower case starting with the title page which is unnumbered; the abstract which follows  
immediately is number “i”.

The text of the dissertation should begin with the page heading “Introduction” (or the  
equivalent) and all pages including tables and figures and facing pages are to be numbered  
consecutively thereafter in Arabic numerals. Pages containing illustrative matter and the  
accompanying caption page (if used) should be included in the consecutive numbering. All  
material, including appendices, must be numbered.

### **Meaning and style**

Your writing should be clear and concise and minimize unnecessary jargon, while still meeting the standards for writing in the discipline of your research. Your Supervisor and labmates can provide examples of writing style typical for thesis in your research field. You may use British or American spelling, but be consistent. Report all units in SI format. You should consult a Scientific Style Guide (see resources below, or ask your Supervisor) for issues of technical writing relevant to your project.

Writing is a process of reviewing and revising/rewriting, so a good dissertation will go through several drafts. You should ask peers or labmates to look at early drafts, and your Supervisor should review a complete draft well before the submission deadline, to give you time to revise before submitting the dissertation for examination.

### Figures and Tables

Figures should be legible and developed in the style appropriate for your area of research. Use a colourblind friendly palette. Figures should be high resolution (600 dpi) with all text/labels in a font 6 points or larger. ***Any photographs that are not taken by you need to be accompanied by a confirmation of permission and include an acknowledgement.*** Scientific photographs should include a scale.

Figures and tables should be numbered with Arabic (not Roman) numerals, and be referred to consecutively in the text. All figures and tables should include a detailed caption that allows a reader to understand the figure independently of the text. Explain symbology in figures in the caption, NOT with a legend. Figure captions are placed below the figure; Table captions above the table. Figures and tables should be comprehensible in their own right; that is, sufficient additional descriptive material should follow each title so that the significance of the figure or table is evident without reference to the text.

Tables or figures may be either kept together and placed as a group at the end of the dissertation before the list of references, or placed individually through the body of the text. In the latter case each one should appear where appropriate on the page immediately following the first text reference to it. Do not place figures or tables in the text in such a way that they disrupt the flow of text and limit to one table or figure per page.

### References

**Candidates must clearly distinguish between their own efforts and those of others. Scientific plagiarism is a serious offense and will result in immediate rejection of the dissertation.** References should follow the format of any major scientific journal in the field of research your work falls. Consult with your supervisor about an appropriate journal format to follow. Only references cited in the text should be listed. It is standard practice to quote the original source of an idea, not a subsequent review article or text book. Personal communications should be referred to, with date, in parentheses in the text. **It is strongly suggested that you make use of reference manager software** (e.g., RefWorks, Mendeley, Zotero), but be sure to proof-read the final reference list and manually edit any errors/inconsistencies.

## Online Sources

Material should **not** be downloaded from the web and used without acknowledging the source. This includes figures, tables etc.

## Copyright

Where a candidate uses essentially unmodified material (such as figures or illustrations) from other sources, it is the student's responsibility to ensure that permission for such use has been obtained where necessary and is acknowledged.

## Confidential data

All candidates whose research or dissertation will deal with confidential data should obtain clearance from all appropriate data sources before proceeding with their research. A dissertation based entirely or in part on confidential data, that may not be disclosed to Examiners, will not be accepted. Some faculty will not supervise student dissertations that are dependent on confidential data.

## RESOURCES

Below are some resources that can help with writing and formatting the dissertation.

Heard, SB. 2022. The scientist's guide to writing. 2<sup>nd</sup> edition. Princeton University Press, Princeton & Oxford

Rubens, P. (Ed.) 2001. Science and Technical Writing: a manual of style. 2<sup>nd</sup> edition. Routledge, New York.

Schimmel, J. 2012. Writing science: How to write papers that get cited and proposals that get funded. Oxford University Press, Oxford.

Turbek, SP, TM Chock, K Donahue, CA Havrilla, AM Oliverio, SK Polutchko, LG Shoemaker, L Vimercati. Scientific writing made easy: a step-by-step guide to undergraduate writing in the biological sciences. *Bulletin of the Ecological Society of America* 97(4): 417-426.

APPENDIX A		
HONOURS PROJECT-BIOLOGY 499A		
STUDENT NAME:	STUDENT NUMBER:	
TITLE OF PROJECT		
DATE SUBMITTED TO SUPERVISOR:		
SUPERVISOR: (PLEASE PRINT)		
I HAVE READ THIS REPORT AND FIND IT	ACCEPTABLE	UNACCEPTABLE
SIGNATURE	DATE	
CO-SUPERVISOR: (PLEASE PRINT)		
I HAVE READ THIS REPORT AND FIND IT	ACCEPTABLE	UNACCEPTABLE
SIGNATURE	DATE	
HEAD OF DEPARTMENT: (PLEASE PRINT)		
I HAVE READ THIS REPORT AND FIND IT	ACCEPTABLE	UNACCEPTABLE
SIGNATURE	DATE	

APPENDIX B		
HONOURS PROJECT-BIOLOGY 499B		
STUDENT NAME:	STUDENT NUMBER:	
TITLE OF THESIS		
DATE SUBMITTED TO SUPERVISOR:		
SUPERVISOR: (PLEASE PRINT)		
I HAVE READ THIS REPORT AND FIND IT	READY FOR EXAMINATION	UNACCEPTABLE
SIGNATURE	DATE	
CO-SUPERVISOR: (PLEASE PRINT)		
I HAVE READ THIS REPORT AND FIND IT	READY FOR EXAMINATION	UNACCEPTABLE
SIGNATURE	DATE	
EXAMINER OF WRITTEN THESIS: (PLEASE PRINT):		
I HAVE READ THIS REPORT AND ASSESS IT AS A:	PASS	FAIL
SIGNATURE	DATE	

<b>Appendix C – Evaluation Forms for posters/talks at the Research Day</b>	
<b>TALK EVALUATION FORM</b>	
<b>Title:</b>	
<b>Presenter:</b>	
<b>Evaluator:</b>	
<b>Overall Rating (check one)</b>	<input type="checkbox"/> <b>Below expectations</b> <input type="checkbox"/> <b>Meets expectations</b> <input type="checkbox"/> <b>Exceeds expectation</b>
<b>Criteria</b>	<b>Comments</b>
<b>Background:</b> Background helps clarify the importance of the research; research question/hypothesis is clearly stated.	
<b>Methods:</b> Methods are clearly explained and are appropriate to the topic.	
<b>Overall content:</b> Results are clearly presented, conclusions are justified by the evidence, future research directions are articulated	
<b>Visuals:</b> Slides are clear and clean, not too text heavy. Figures are clear.	
<b>Speaking style:</b> Good speed, volume, eye contact	
<b>Q &amp; A:</b> Confident handling of questions	
<b>Provide general comments here:</b>	

**POSTER EVALUATION FORM**

<b>Title:</b>	
<b>Presenter:</b>	
<b>Evaluator:</b>	
<b>Overall Rating (check one)</b>	<input type="checkbox"/> <b>Below expectations</b> <input type="checkbox"/> <b>Meets expectations</b> <input type="checkbox"/> <b>Exceeds expectation</b>
<b>Criteria</b>	
<b>Comments</b>	
<b>Background:</b> Background helps clarify the importance of the research; research question/hypothesis is clearly stated.	
<b>Methods:</b> Methods are clearly explained and are appropriate to the topic.	
<b>Overall content:</b> Results are clearly presented, conclusions are justified by the evidence, future research directions are articulated	
<b>Visuals:</b> Poster is attractive, not text-heavy. Visuals and layout are clear. Figures are clear and well-executed.	
<b>Speaking style:</b> Good confidence, eye contact, effective summary of poster.	
<b>Q &amp; A:</b> Confident handling of questions	
<b>Provide general comments here:</b>	